

WHAT IS CLAIMED IS:

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1. A current control circuit, comprising:  
a control current generation circuit that  
generates a control current in accordance with an external  
current control signal; and

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a plurality of drive current generation circuits  
that generate drive currents in accordance with the  
control current that is generated by and supplied from  
said control current generation circuit.

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2. The current control circuit as claimed in  
claim 1, wherein the control current generation circuit  
20 comprises:

a variable current source that generates and  
outputs a current corresponding to the external current  
control signal;

a first current mirror circuit that generates a  
25 current corresponding to the current generated by said  
variable current source; and

a second current mirror circuit that generates a  
current corresponding to the current generated by said  
first current mirror circuit and supplies the generated  
30 current to the drive current generation circuits.

3. The current control circuit as claimed in claim 2, wherein the variable current source supplies a current to the first current mirror circuit,

5           the first current mirror circuit draws from the second current mirror circuit a current corresponding to the current supplied from the variable current source, and

          the second current mirror circuit generates a current corresponding to the current drawn by the first  
10 current mirror circuit and supplies the generated current to the drive current generation circuits.

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4. The current control circuit as claimed in claim 2, wherein the variable current source draws a current from the first current mirror circuit,

          the first current mirror circuit supplies to the  
20 second current mirror circuit a current corresponding to the current drawn by the variable current source, and

          the second current mirror circuit draws from the drive current generation circuits a current corresponding to the current supplied from the first current mirror  
25 circuit.

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5. A motor drive circuit, comprising:  
a first drive current control element that controls supply of a drive current to a motor;  
a second drive current control element that

draws the drive current from the motor;

a control current generation circuit that generates a control current in accordance with an external current control signal;

5 a first drive current generation circuit that drives said first drive current control element in accordance with the control current generated by and supplied from said control current generation circuit; and

10 a second drive current generation circuit that drives said second drive current control element in accordance with the control current generated by and supplied from said control current generation circuit,

wherein driving of the motor is controlled by controlling said first drive current control element and  
15 said second drive current control element which elements are controlled in accordance with the external current control signal.

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6. The motor drive circuit as claimed in claim 5, wherein the control current generation circuit comprises:

25 a variable current source that generates and outputs a current corresponding to the external current control signal;

a first current mirror circuit that generates a current corresponding to the current generated by said variable current source; and

30 a second current mirror circuit that generates a current corresponding to the current generated by said first current mirror circuit and supplies the generated current to the first drive current generation circuit and

the second drive current generation circuit.

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7. The motor drive circuit as claimed in claim 6, wherein the variable current source supplies a current to the first current mirror circuit,

10 the first current mirror circuit draws from the second current mirror circuit a current corresponding to the current supplied from the variable current source, and

the second current mirror circuit generates a current corresponding to the current drawn by the first current mirror circuit and supplies the generated current  
15 to the first drive current generation circuit and the second drive current generation circuit.

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8. The motor drive circuit as claimed in claim 7, wherein the first drive current control element and the second drive current control element are formed by transistors of the same polarity, and

25 the first drive current generation circuit and the second drive current generation circuit have the same circuit configurations.

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9. The motor drive circuit as claimed in claim 7, wherein the motor comprises coils of a plurality of

phases,

a set of the first drive current generation circuit and the second drive current generation circuit is provided for each of the coils of the phases, and

5 the first drive current generation circuits and the second drive current generation circuits of the phases are driven by the control current generated by the control current generation circuit.

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10. The motor drive circuit as claimed in claim 6, wherein the variable current source draws a current  
15 from the first current mirror circuit,

the first current mirror circuit supplies to the second current mirror circuit a current corresponding to the current drawn by the variable current source, and

the second current mirror circuit draws from the  
20 first drive current generation circuit and the second drive current generation circuit a current corresponding to the current supplied from the first current mirror circuit.

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11. The motor drive circuit as claimed in claim 10, wherein the first drive current control element and  
30 the second drive current control element are formed by transistors of the same polarity, and

the first drive current generation circuit and the second drive current generation circuit have the same

circuit configurations.

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12. The motor drive circuit as claimed in claim 10, wherein the motor comprises coils of a plurality of phases,

a set of the first drive current generation circuit and the second drive current generation circuit is provided for each of the coils of the phases, and

the first drive current generation circuits and the second drive current generation circuits of the phases are driven by the control current generated by the control current generation circuit.

20 13. The motor drive circuit as claimed in claim 6, wherein the first drive current control element and the second drive current control element are formed by transistors of the same polarity, and

the first drive current generation circuit and the second drive current generation circuit have the same circuit configurations.

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14. The motor drive circuit as claimed in claim 13, wherein the motor comprises coils of a plurality of phases,

a set of the first drive current generation circuit and the second drive current generation circuit is provided for each of the coils of the phases, and

5 the first drive current generation circuits and the second drive current generation circuits of the phases are driven by the control current generated by the control current generation circuit.

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15. The motor drive circuit as claimed in claim 6, wherein the motor comprises coils of a plurality of phases,

15 a set of the first drive current generation circuit and the second drive current generation circuit is provided for each of the coils of the phases, and

the first drive current generation circuits and the second drive current generation circuits of the phases  
20 are driven by the control current generated by the control current generation circuit.

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16. The motor drive circuit as claimed in claim 5, wherein the motor comprises coils of a plurality of phases,

a set of the first drive current generation circuit and the second drive current generation circuit is  
30 provided for each of the coils of the phases, and

the first drive current generation circuits and the second drive current generation circuits of the phases

are driven by the control current generated by the control current generation circuit.